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Aaron Borrowman

From: Richard Tad Lepman [tad@bieor.com]
Sent: Tuesday, April 13, 2004 3:29 AM
To: tad@bieor.com
Subject: NCR's Value Analyzer: Details, details....

from url: http://www.teradata.com/t/go.aspx/?id=114539

Applied Solution

DETAILS, DETAILS

How much are your customers worth? The answer is in their actions.

by Barb Swartz

AS AN INVESTOR IN TODAY'S STOCK MARKET, you know you can't make a wise decision without considering a company's annual and quarterly reports, its past stock performance, independent reviews of its market share and more. For instance, two popular U.S.-based retail companies reported comparable revenue figures in their 2002 high-level financial reports, but a little research revealed that one corporation actually had a stronger balance sheet and accompanying stock price, while the other was experiencing higher growth.

Investors look for the details that can help them make informed decisions. By the same token, businesses must demand details when they evaluate the profitability and value of their investment in their customer base.

Most companies say they know who their most valuable customers are, but their view is often based on simplistic measurements like average revenue per user, miles flown, number of products owned, number of accounts, purchase frequency or average number of stays. With a more detailed, behavior-based measure of profitability, businesses can feel confident that they are optimizing their investments in customers, products and channels.

By the numbers

The marketplace abounds with profitability systems. Most of them use data that has already been summarized by source systems of record, e.g. by transaction type or by the number of occurrences of that transaction type in the last period. These summaries, or proxies, are then multiplied by the cost per transaction type to arrive at the customer expense or direct cost.

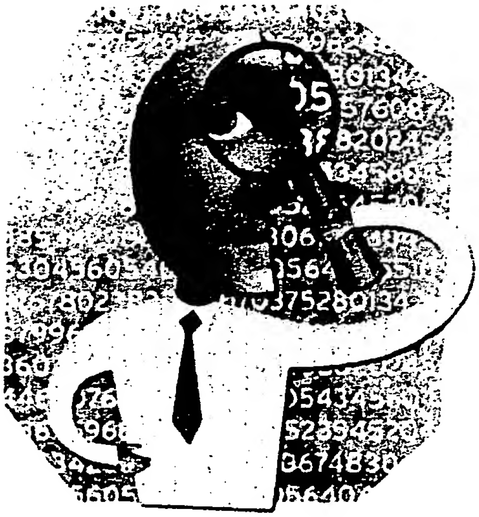
Most companies say they know who their most valuable customers are, but their view is often based on flawed data, simplistic

Most profitability systems are unable to process high volumes of data, so proxies are used

EXHIBIT G

measurements or incomplete information.

instead. Proxies serve to condense customer behavior into manageable amounts of information that are useful for a specific time and purpose.



While generally accurate enough to develop relative profitability measures, proxies lack insight into individual customer behavior and are inadequate for companies looking to build a franchise around individual customers. When a company attempts to extrapolate future value from proxies, even the smallest inaccuracies or missing data will have a dramatic impact on the results.

Summarized data presumes that the summary will be used to answer specific questions. Even though the summaries were constructed from actual events, they can't be deconstructed to recreate those events. This impacts not only the calculation of the profitability figures, but also the analysis for an individual customer or group of customers.

A look at behavior

Teradata provides a unique solution for accurately measuring profitability at the lowest level—the basic unit and transaction level. Teradata Value Analyzer, which runs on the Teradata Warehouse, enables multi-dimensional views of profitability, using customer activity as the foundation. This satisfies the need for detailed enterprise profitability reporting and analysis, which leads to better informed decisions that maximize profitability. In other words, the measurement of profitability is driven by the behavior associated with the basic unit instead of summaries or averages—a practice that ensures true cost- and income-drivers can be identified and understood at the most detailed level across the organization.

Teradata Value Analyzer helps users better understand the value of their customers. It measures, in detail, the components of customer revenue and customer expense at the basic unit and transaction level. From this data, companies can develop any number of aggregations, including by customer or household, by channel, by product or by organization. The calculations involve the measurement of each basic unit's profit contribution across five components: base revenue, net interest revenue, direct expense, indirect expense and risk provision. This approach allows easy reconciliation with the general ledger and consistent data analysis—certainly a revolutionary step for many companies.

Case study

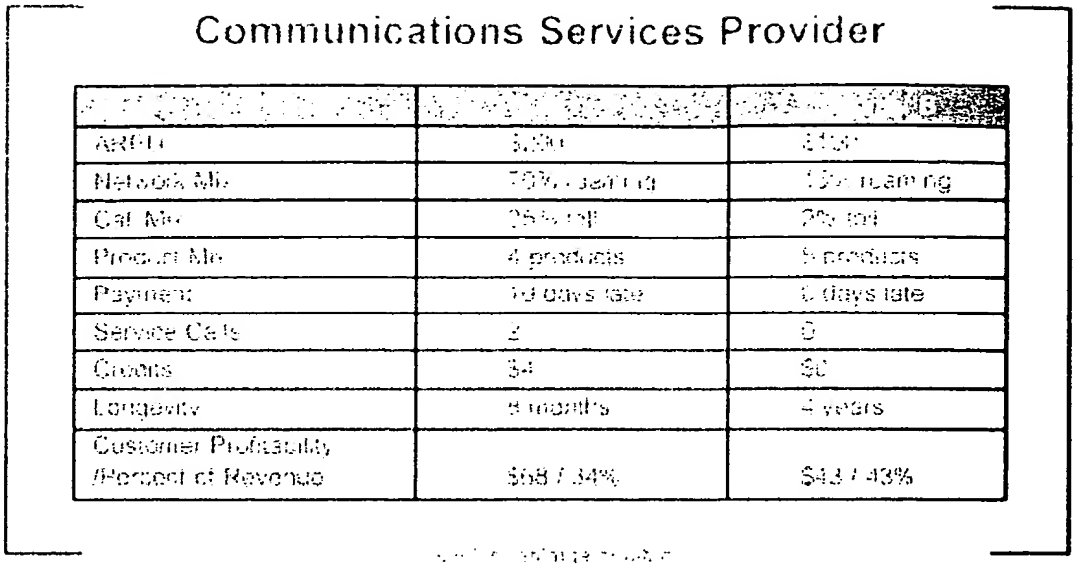
Consider the telecommunications industry, which often uses average revenue per user (ARPU) as its measurement for customer value and success. Customer A has an ARPU of $200 per month, and Customer B has an ARPU of $100 per month. At face value, Customer A is twice as valuable as Customer B. However, things are not always as they appear.

With Teradata Value Analyzer, the communications service provider (CSP) can incorporate into the profitability calculation variables such as network, call and product mix, along with other behavioral data such as payment history and service calls. The "Customer Profitability/Percent of Revenue" calculation in the chart below yields a value that would cause the CSP to view

Just knowing profitability by

customer, account, shipment or flight is not enough to improve financial results. The analysis must result in action.

these customers differently than if they just used the ARPU calculation.



Communications Services Provider

[illegible]	[illegible]	[illegible]
ARPU	$200	$100
Network Mix	70% roaming	10% roaming
Call Mix	25% toll	2% toll
Product Mix	4 products	5 products
Payment	10 days late	0 days late
Service Calls	2	0
Credits	$4	$0
Longevity	8 months	4 years
Customer Profitability /Percent of Revenue	$68 / 34%	$43 / 43%

Teradata Value Analyzer captures the way the CSP treats the account by defining business rules associated with profitability drivers such as network expense.

The solution also captures the way the customer interacts with their accounts by incorporating actual transactions in the profitability calculation. Therefore, the account-level profit reflects the uniqueness of each customer by the transactions, channels and usage relating to every account owned by the customer.

This process can scale for businesses of any size. Royal Bank of Canada, for example, has 25 million accounts and handles 52 million transactions on a monthly basis. Despite the size of the database, it takes less than eight hours to run the Teradata Value Analyzer process against detail data once a month with nearly 250 business rules.

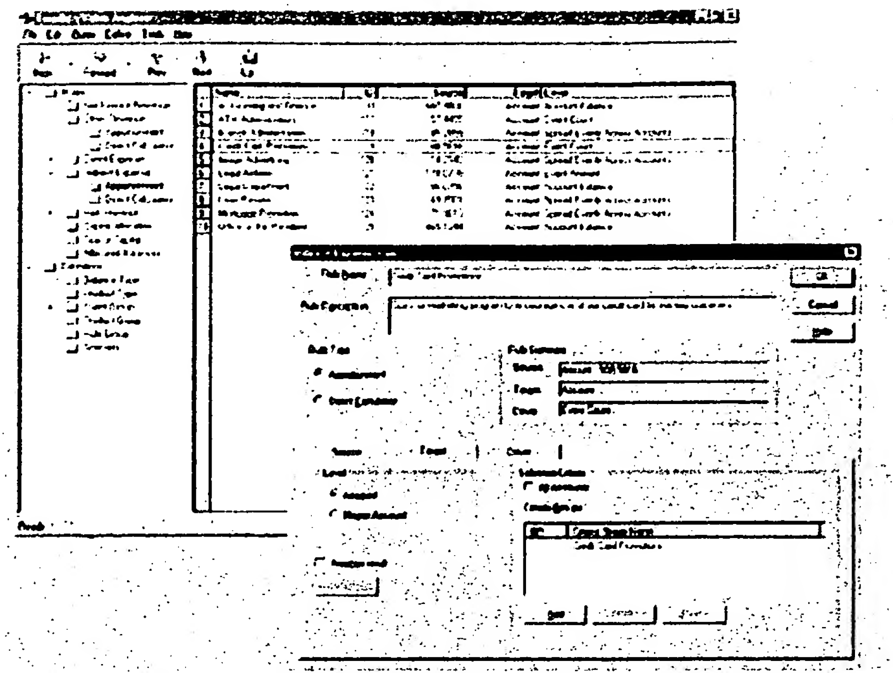
Analyzing the analyzer

Teradata Value Analyzer has an easy-to-use graphical user interface (GUI) that allows users to set up, define and maintain policies and processes concerning revenue and expense structures as they relate to each component of profitability. The application allows an unlimited number of these "business rules," which are unique to every company.

To set business rules in the application, users must provide input in two main areas. First, they need to define the products and events on which the application will base its modeling. This information is the foundation of the profitability calculation process. Second, users must define the rules relating to each component of profitability. This step is performed by selecting attributes, such as frequent flyer status, and inputting specific data or variables relating to each attribute.

The GUI was designed for business users rather than technical users, making the rules easy to maintain. All data related to the rules of the profitability model are stored in the database and can be retrieved. In addition, the front-end screens remain set up from the previous run of the model, allowing users to see how the model was defined in the last cycle and giving them the option to simply re-run the next month's data without changing any parameters.

The next step in the Teradata Value Analyzer process is to invoke the profitability engines that run inside the Teradata Warehouse. Tables are then populated with the detail profitability results and ready for users to view in a manner that best meets their needs.



click to enlarge graphic

Call to action

Customer profitability measurement is a three-step exercise. The first step is to understand what the customer's profit-ability level is. The second step is to analyze why that level is what it is. Finally, the third step is to take action, based on the analysis, to improve the customer's value to the organization.

To properly understand why a customer is profitable, analysts must have access to the information that was used to calculate the value. Behind every value calculated by Teradata Value Analyzer are the five components mentioned earlier. This information needs to be calculated and stored to understand trends and anomalies.

To illustrate this, consider a financial services institution. It studied a segment of customers with a particular service package that, while valuable due to their overall relationship, including mortgages and investments, were not contributing to profit as a result of the current service package. In analyzing the actual transactions performed by this customer segment, the bank found that a high percentage of them used the bill payment function at the ATM. This type of transaction was expensive for the bank and was determined to be draining profitability from this segment.

The bank needed to influence the behavior of these valuable customers so they would migrate to a more cost-effective means of performing the same transaction. There were three options.

Option 1: Introduce a fee for paying bills at the ATM. **Projected response:** Negative public relations move that would penalize customers and could potentially cause a retention problem.

Option 2: Introduce "Web-enabled ATMs" that would read and process bill payments electronically. **Projected Response:** Further decline in profitability, as this option costs more than ATM bill payment.

Option 3: Introduce telephone and Internet banking access into the package. **Projected Response:** Clients would see this option as an added convenience, thus increasing the bank's perceived value.

The bank initiated Option 3. As a result they saw very positive results in both financial performance and customer satisfaction. Over time, as bill payment transactions migrated to the Web, the costs to serve this customer segment dropped significantly, and fewer than 10% of these packages were loss leaders. After 24 months, an additional package enhancement for increased transactions each month and a small increase in the monthly fee eliminated these losses. The package is now fully profitable and, much more importantly, the clients using the package are very satisfied and well-anchored with little incentive to move to another bank's Internet service.

CRM's the thing

Just knowing profitability by customer, account, shipment or flight is not enough to improve financial results. The analysis must result in an action taken to improve results. Any complete customer relationship management (CRM) initiative will recognize the need for detailed and accurate profitability calculations. A CRM-oriented profitability measurement process has to meet the needs of CRM managers by providing:

> **Enough detail** to explain how the customer comes into contact with the company and the expense and revenue associated with each of those contacts;
> **A comprehensive view** of the customer's relationship with the business so that the true contribution or cost of the relationship is understood;
> **A consistent view** so that changes in the relationship can be properly understood;
> Timely information so that the enterprise can act before the opportunity is lost or risk has been fully realized;
> **Credible results** that reflect the company's own costs and unique business practices; and
> **Flexibility** so that the measurement process can easily change as the business environment changes.

In profitability, actionable information is found either hidden in the bits that go into the calculation or in the ways the information can be combined with other information unrelated to profit. But, without a doubt, truly actionable information is what management wants and needs. **T**

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ILLUSTRATION BY JOYCE HESSELBERTH

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